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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/727,944

12/04/2003

Yusuke Ichikawa

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08/04/2009

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EXAMINER

YABUT, DIANE D

ART UNIT

PAPER NUMBER

3734

MAIL DATE

DELIVERY MODE

08/04/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/727,944 | Applicant(s) ICHIKAWA, YUSUKE | |
| | Examiner DIANE YABUT | Art Unit 3734 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2009 and 11 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/10/2009 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ouchi** (U.S. Patent No. **6,238,336**) in view of and **Masatoshi** (**JP 11076254**) and **Hoyns** (U.S. Patent No. **5,759,154**).

Ouchi discloses an ultrasonic endoscope with a sheath **100** which is inserted into a treatment tool insertion channel **13** of the ultrasonic endoscope and a pipe-shaped needle tube **101** for being inserted into tissue within the body cavity through the sheath which includes a cutting tip portion formed in a sharp shape with a smaller cross-section

Art Unit: 3734

in a tip-ward direction, the cutting tip portion being provided on a tip side of the needle tube (Figure 1, col. 4, lines 15-20).

Ouchi also discloses a tube portion formed in the shape of a tube at the rear end of the puncturing portion of needle **101**, and a tube-shaped portion formed as an extension of the tube portion (Figure 1, col. 4, lines 15-20).

Ouchi does not expressly disclose having a plurality of staggered-array annular-shaped recesses, formed after formation of the cutting tip portion, having flat surfaces on bottoms and sides thereof and provided from a back surface of the cutting tip portion near a tip of the needle tube to a predetermined range on a surface of a tip portion of the needle tube, which is an area excluding the cutting tip portion.

Masatoshi teaches an ultrasonic needle tube **1** with annular-shaped recesses **30** formed after formation of the cutting tip portion, located in an area excluding a cutting tip portion (Figures 4-5), the annular-shaped recess having flat surfaces on bottoms and sides with smoothly curving interfaces therebetween (Figure 6). It would have been obvious to one of ordinary skill in the art at the time of invention to provide annular-shaped recesses being formed at positions such that overlap of the recesses and the cutting-tip portion does not occur, as taught by Masatoshi, to Ouchi in order to project the positioning of the needle under an ultrasonic image clearly, safely, and reliably while preventing interference of the piercing function. In addition, it would have been obvious to one of ordinary skill in the art to provide annular-shaped recess having flat surfaces on bottoms and sides with smoothly curving interfaces therebetween in order to be

Art Unit: 3734

projected clearly under an ultrasonic image, making it possible to carry out puncture safely and reliably.

Hoyns teaches an ultrasonic puncture needle with recesses being in a staggered-array (Figures 1A-2). It would have been obvious to one of ordinary skill in the art at the time of invention to provide recesses being in a staggered-array, as taught by Hoyns, to Ouchi in order to provide a stronger return signal of an incident ultrasound beam to the ultrasound array and a more specular reflection of an ultrasound beam at shallow angles of incidence (col. 3, lines 33-38).

Response to Arguments

4. Applicant's arguments filed 06/11/2009 have been fully considered but they are not persuasive.

5. Applicant argues that Masatoshi does not disclose providing annular recesses from a backsurface of the cutting tip portion to a predetermined range on a surface of a tip portion. However, it is shown in Figure 4 of Masatoshi that the annular recesses **30** are positioned at a backsurface of the cutting tip portion **6** to a predetermined range on a surface of a tip portion, which is an area excluding the cutting tip portion, and therefore this reads on the claim limitation.

6. Next, applicant argues that Masatoshi teaches annular recesses with a sharp angle as shown in Figure 5, instead of curving interfaces. However, in another embodiment of Figure 6, Masatoshi teaches annular recesses having flat surfaces on

Art Unit: 3734

the bottom and the sides with smoothly curving interfaces, and therefore reads on the limitations of the claims.

7. Applicant also argues about the disadvantages of Hoyns that are irrelevant to the claim limitations. As maintained above, Hoyns teaches teaches an ultrasonic puncture needle with recesses being in a staggered-array (Figures 1A-2) which provides a stronger return signal of an incident ultrasound beam to the ultrasound array and a more specular reflection of an ultrasound beam at shallow angles of incidence (col. 3, lines 33-38).

8. Lastly, applicant argues that Ouchi neither discloses nor suggests a plurality of staggered-array annular-shaped recesses. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. As discussed above, Masatoshi and Hoyns teach annular-shaped recesses.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIANE YABUT whose telephone number is (571)272-6831. The examiner can normally be reached on M-F: 9AM-4PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Todd Manahan can be reached on (571) 272-4713. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3734

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Diane Yabut/
Examiner, Art Unit 3734

/Todd E Manahan/
Supervisory Patent Examiner, Art Unit 3734